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A Stepwise Approach to Risk Assessment for Hazardous Child Labour

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1. Introduction

In 2008, an estimated 62 million youth between ages 15 to 17 were doing work hazardous work. This is a 20 per cent increase from levels in 2004. This age group represents children whose work could be considered legal employment if there was minimal risk or if they were well-trained and well-protected from occupational safety and health hazards. But how can risks to young workers be recognized and reduced to acceptable levels?

This risk assessment guideline is geared towards individuals who are interested in determining if youth of legal employment age and less than 18 years are engaged in hazardous work, one of the worst forms of child labour by international conventions. Hazardous work involves the conditions of the work environment itself, as well as the dangerous job activities sometimes assigned to children. It is hazardous work that causes physically injuries (e.g., broken bones by falls from heights; amputations from unguarded machines), makes people sick (e.g., lung diseases from dusts; cancer from pesticides), or damages psychosocial development (e.g., behaviour and personality changes from mercury; long-term harm from verbal abuse).

It is estimated that 90 per cent of all children involved in the worst forms of child labour are doing hazardous work. The remaining ten per cent include children in slavery, trafficking, armed conflict, prostitution and pornography, and other illicit activities. While these are obviously critical areas for attention, preventing children from entering hazardous work environments or improving the conditions in which older children work would be a major advance in our ultimate goal of creating decent work opportunities, and not dead-ends, for older children and youth. In this regard, hazardous child labour is as much a specialization within child labour as it is an integral part of field of occupational safety and health. More to the point, the elimination of hazardous child labour is impossible without the expertise of occupational safety and health professionals and basic understanding of the risk assessment process.

2. A Stepwise Approach to Risk Assessment

At the international level, there are not fixed rules about how risk assessments for young workers should be undertaken (you should check the specific legislation relating to risk assessment in your country). However, there are two principles which should always be borne in mind when approaching a risk assessment:

1. To structure the assessment to ensure that all relevant hazards and risks are addressed (e.g. not to overlook tasks, such as cleaning, that might take place out of normal working hours, or ancillary departments such as waste compacting).
2. When a risk is identified, to begin assessment from first principles by asking whether the risk can be eliminated (more on this later under the hierarchy of controls discussion).

For most businesses, especially small and medium-sized enterprises where many young people work, a straightforward five-step approach (incorporating elements of risk management) such as the one presented below should work well.

Step 1. Identifying hazards and those at risk: Looking for those things at work that have the potential to cause harm, and identifying workers who may be exposed to the hazards.

Step 2. Evaluating and prioritising risks: Estimating the existing risks (the severity and probability of possible harm) and prioritising them in order of importance.

Step 3. Deciding on preventive action: Identifying the appropriate measures to eliminate or control the risks.

Step 4. Taking action: Putting in place the preventive and protective measures through a prioritisation plan.

Step 5. Monitoring and reviewing: The assessment should be reviewed at regular intervals to ensure that it remains up to date.

Each of these steps will be discussed later in the report. However, it is important to note that there are other methods that work equally well, particularly for more complex risks and circumstances. Which approach to assessment is applied will depend upon:

- The nature of the workplace (e.g. a fixed establishment, or a transitory one).
- The type of process (e.g. repeated operations, developing/changing processes, work on demand).
- The task performed (e.g. repetitive, occasional or high risk).
- Technical complexity.

In some cases a single exercise covering all risks in a workplace or activity may be appropriate. In other cases, different approaches may be appropriate to different parts of a workplace. Often, the most prudent approach to designing appropriate risk assessment procedures is to engage the expertise of occupational safety and health professionals.

The following section gives background information on common occupational safety and health hazards and risks for young workers.

3. Basic Knowledge of Occupational Safety and Health

The field of occupational safety and health (OSH) is broad based, from research to practice, and cuts across different disciplines such as industrial hygiene, safety, nursing and medicine, epidemiology, toxicology, and engineering. Its ultimate concern is making workplaces safe and healthy for people who work, as well as protecting families of workers and their communities.

This section of the report defines categories of OSH hazards, gives some common examples, and briefly mentions ways in which hazards are prevented or reduced, specifically by introducing a hierarchy of controls. Section 4 returns to the risk assessment steps and goes through each one individually.

3.1 Categories of OSH Hazards

Although there are many definitions for OSH, a simple way to think about the topic is to consider different types of hazards, which may include anything at work (or resulting from the workplace) that can hurt someone either physically or mentally. OSH hazards can be divided into five categories:¹

¹ Youth@Work: Talking Safety, a foundation curriculum in occupational safety and health promoted by the U.S. National Institute for Occupational Safety and Health (NIOSH), defines hazards this way (except it does not breakout psycho-social hazards). The curriculum is meant to be used in classrooms or other group training

- *Safety hazards*, which can cause immediate accidents and injuries. Examples are hot surfaces, slippery floors, unguarded machines, broken ladders, and motor vehicles.
- *Chemical hazards* such as gases, vapours, liquids, or dust that can harm the body or, in some instances, cause reproductive health effects. Examples are cleaning products, pesticides, wood or stone dust, and heavy metals such as lead. Chemicals can enter the body by Inhalation (from breathing), dermal absorption (through skin), and Ingestion (by eating or drinking).
- *Biological hazards*, which are living things that can cause diseases such as flu, AIDS, Hepatitis, Lyme Disease, and tuberculosis (TB). Examples include bacteria, viruses, or insects. In the workplace, people can be exposed to biological hazards through contact with used needles, sick children, animals, etc. The same routes of exposure for chemicals listed above (breathing, through skin, or by eating or drinking) are relevant for biological hazards.
- *Psychosocial hazards*, which include working in isolation, harassment and bullying in various forms, long hours of work, and other situations that cause stress.
- *Other hazards*, which are sometimes less obvious because they may not cause health problems right away. Examples are noisy machines, extensive repetitive movements and other ergonomic problems, and excessive heat or cold.

3.2 Examples of OSH Hazards

Different small scale industries and occupations come with a variety of problems. For many, the literature frequently cites poor housekeeping, poor ventilation and lighting, long working hours, poor workplace layout and workstation design, lack of adequate materials storage, fire safety hazards, poor work postures and work methods, excessive chemical exposures, and lack of awareness of chemical hazards and risks² as common problems. While health hazards from chemical exposures are not important for all activities, some do produce substantial risks. Further, since the work is often done in or near the home and may involve whole families, the entire family, including children who do not work, can be at risk for OSH hazards. The following discussion outlines common OSH hazards in micro and small enterprises and the informal economy. The list is not exhaustive, however, and individual workplaces can pose other types of hazards to workers.



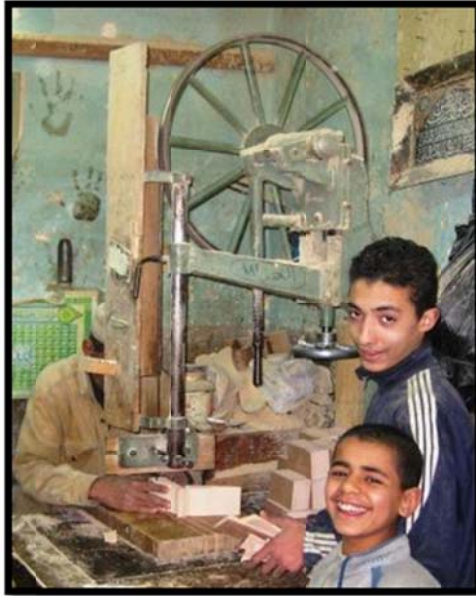
settings where older children and youth gather. It has been translated into Arabic and piloted with children and youth in Egypt.

² In a technical sense, a “hazard” is anything with the potential to do harm. A “risk” is the likelihood of harm from a hazard being realised.

Injuries

Injuries are a big concern. Eye injuries are particularly prevalent, even though they are usually preventable. Cuts and punctures are common, as well, as are falls. Hand tools are often designed for adults, not for children. This can cause the incidence of accidents to go up. Tools that are too big and heavy, for example, will be tiring and cause worker errors.

Risk of injury is great when there are machines with rotating shafts, wheels, rollers, pulleys, and gears that can catch clothing, skin, or hair. Moving parts can literally pull the worker into the machine. Injury is possible with a machine where one part rolls against another, creating a “nip point” in which hands or clothing can be caught. Power machines with a back and forth movement (for example, a power loom) may catch a worker unaware. Cutting and punching, shearing, and bending operations also cause many work-related injuries.



There is little reported data that accurately portrays incidents of injuries because informal economy workers and owners usually do not report them as such. They are rarely recorded by health clinics because there are no formal mechanisms by which to do so. But, in countries where studies have been conducted to specifically look at this issue of underreporting, the incidence rates are higher among micro and small enterprises than among similar workers in larger, more formal enterprises. These studies show that young workers are also injured at consistently higher rates than older workers.



Lead ³

Lead-based industries are prevalent throughout world. Common occupations in the informal economy include recycling old car batteries, repairing automobile radiators, stripping paint or sanding painted surfaces, and stained glass making, among others. Accumulations of lead dust presents health hazards to workers and disproportionately affect the unborn (when women are exposed to lead) and children. Lead is a reproductive hazard for both women and men. Family members may be directly exposed to lead when work is done in or around the home. Probably more frequently,



however, lead dust from other work locations is carried home on worker's clothing, thus exposing the entire family. When lead (or other hazardous dust) is a byproduct of the work process, many larger factories require workers to leave dirty work clothes at work and use professional laundry services to prevent lead being spread from workplace to the home. Owners, managers, and workers of micro and small enterprises, however, are usually unaware of these potential hazards and end up contaminating their homes.

Solvents

Solvents are another concern when used without proper knowledge of their potential health effects or ways to minimize exposure. Furniture makers, shoemakers, dry cleaners, metal shop workers, automobile body workers, and others using paints, glues, cleaners, and degreasers can have excessive exposure to solvents by inhalation and dermal absorption. Solvents are known to cause dermatitis after repeated skin contact, can be absorbed into the body through the skin or inhaled, and are associated with a variety of health problems. Elevated short-term exposure may cause headaches, blurred vision, or even death. More common, however, are long-term daily exposures to relatively low doses that may result in nerve damage or cancer later in life. The potential long-term negative effect of daily solvent exposures on children, because they are developing physically and mentally, is of significant concern.

Silica ⁴

Silicosis, a deadly disease, is the most common occupational disease worldwide and is a silent killer in most parts of the world because it is often misdiagnosed. That is, silicosis victims usually die of pneumonia, tuberculosis, or other lung diseases. As a result, the connection between work activity and the disease is rarely made on an individual basis. Many informal economy workers engaged in dusty operations are exposed to silica dust, the cause of silicosis, when they do construction (demolition, sandblasting, rock drilling,



³ Photo of child lead battery worker by Perry Gottesfeld, Occupational Knowledge International. www.okinternational.org

⁴ Photo of young worker exposed to dust from crushed stone, which contains silica, by Perry Gottesfeld, Occupational Knowledge International. www.okinternational.org

masonry work, jack hammering, tunnelling, road milling), mining (cutting or drilling through sandstone and granite); stone crushing (for making cement or roads); cement manufacturing; foundry work (grinding, mouldings, shakeout, core room); ceramics, clay, and pottery; stone cutting (sawing, abrasive blasting, chipping, grinding); glass manufacturing; and manufacturing and use of abrasives.

Studies have also shown a three-fold increased risk for developing tuberculosis (TB) in workers with silicosis compared to those without the disease, and it is known to be a human carcinogen. There is no cure for silicosis.

Pesticides

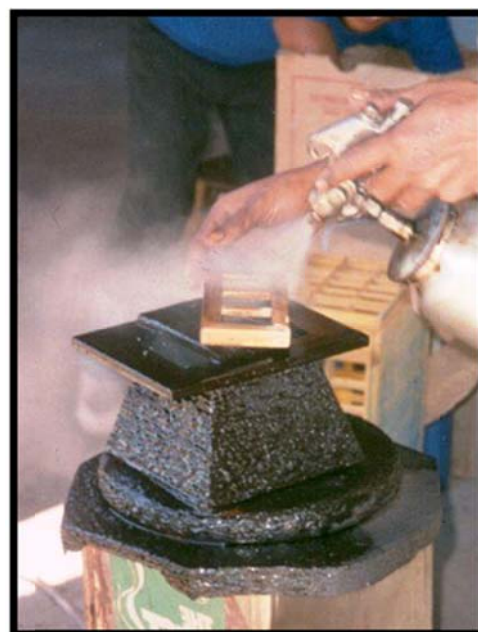
Small-scale and subsistence farmers can easily purchase pesticides and application devices but are rarely told about the health risks associated with pesticide use in a way that they understand. Nor are they routinely made aware of simple, low-cost methods to reduce pesticide exposures to themselves and their families.



Mixed Hazards

Most worksites present mixed OSH hazards to workers. For example, there are well-documented case studies for handicraft workers.

*...home-based arts and crafts industries such as pottery, jewellery, weaving, and woodworking, as well as other cottage industries—are a major and neglected part of the economies of developing countries. These industries have many hazards, including lead, silica, toxic woods, cadmium, dyes, and ergonomic problems. Since the work is often done in the home and can involve whole families, the entire family, including children, can be at risk. Prevention programs involving training and education about the hazards, suitable precautions, and development of safer substitutes are needed. This will also require training of local health care providers in the diagnosis and treatment of occupational diseases related to hazards in these cottage industries.*⁵



Excessive Hours of Work

Working too many hours—or a long bloc of hours without a break—increases the number of mistakes and injuries, making even simple tasks hazardous. Young people require more sleep than adults and 15 to 18 year olds may actually need as much or more sleep than younger children. They likely need about 9.5 hours per night.⁶ Excessive working hours are also a barrier to school attendance and other educational opportunities. Working at night poses additional safety risks. Further, many young workers – especially girls – often have a second “job” at

⁵ McCann M. Hazards in cottage industries in developing countries. American Journal of Industrial Medicine 30:125-129 (1996)

⁶ M.A. Carskadon: “Sleep patterns during adolescent development,” presentation to the US National Research Council, Washington DC, 25 June 1997.

home in the form of domestic tasks such as child care, cooking, hauling water and wood, and running errands.

Harassment

Harassment is a physical act or comment imposed on someone who is not in a position to complain. For the individual concerned, harassment can result in extreme suffering — both physical and psychological. There are different types of harassment. Sexual harassment, for example, includes unwelcome touching, patting, staring or leering; suggestive remarks or lewd comments; sexually suggestive wall posters or calendars; hints, requests, or demands for sexual favours; and rape. Even when there has been no physical contact, psychological damage can occur in the form of shame or guilt. Religious sensitivities can be particularly strong on this matter. It can have a devastating effect on a young person's whole life when an unwanted pregnancy or a sexually transmitted disease such as an HIV infection results.

Other types of harassment include, but are not limited to, damage to personal belongings, gossiping and inducing colleagues to be against the person, humiliation, insults, name-calling and ridicule, shouting and swearing, isolation and shunning, intrusion into private life, and threats and intimidation.

Noise

Exposure to high levels of noise at work, particularly if it is continuous over several hours every day, can cause permanent hearing loss. This is a frequent, but rarely recognized, hazard. As a rough guide, if you cannot hear a normal conversation clearly when you are two metres away from the speaker, the length of two outstretched arms, the noise level is likely too high. Repeated and continuous exposure at these levels can cause irreversible auditory damage. Children exposed to noisy equipment and machines at work can become hearing-impaired adults with no chance for improvement later in life.

Ergonomics

Children are particularly prone to ergonomic problems because of their small size and underdeveloped bodies.⁷ Many children in the informal economy carry and manipulate heavy loads and are often forced to adapt to equipment and surroundings designed for larger adult workers. This can lead to serious injury to the hands, wrists, joints, back, or other parts of the body. In particular, injuries can result from:

- Tools and tasks that require repeated twisting hand or joint movements (e.g., washing clothes for long periods of time with no rest breaks).
- Applying excessive pressure on parts of the hand, back, wrists, or joints (e.g., working on one's knees, washing floors for extended periods).
- Working with the arms outstretched or extended over the head (e.g., cleaning ceilings or high walls or furniture).



⁷ This summary is from: Rinehart R. Hazardous child domestic work: A briefing sheet. Geneva, International Labour Office, 2007. ISBN 978-92-2-119446-0 (Print). ISBN 978-92-2-119447-7 (Web PDF). See also: <http://www.itcilo.it/english/actrav/telearn/osh/ergo/ergoa.htm> for a discussion on ergonomic hazards and ways to prevent them.

- Working with a bent back (e.g., sweeping and washing floors, harvesting farm produce).
- Lifting or pushing heavy loads (e.g., transporting water, hauling laundry).

Ergonomic injuries usually develop gradually over a period of months or years as a result of repeated exposure and can be very painful or even permanently crippling. The risks of long-term effects are even greater for children who suffer these injuries when their bodies are still in their development stages.

As an example of the ergonomic problems associated with micro and small enterprises, a checklist exercise was conducted in numerous small workshops in Manila for potential problems and possible action. The checklist was designed originally for the ILO Work Improvements in Small Enterprises (WISE) training program (discussed in Section 5 of this report). The author reported the following:

Awkward work positions (e.g., bending, squatting and lying underneath cars in auto repair shops) are common in these enterprises. Stools and benches are not of the proper height and work items are processed at times directly on the floor. Workers are in these positions for several occasions in a span of one hour.⁸

In summary, among many other situations, there may be a problem if:

- Young (or adult) workers are getting hurt.
- Young people or women work alone.
- Workers have not been trained.
- Equipment is broken.
- Machines lack safety guards.
- Chemical containers don't have labels.
- Workers use shortcuts to save time.
- The workplace is messy.
- Floors are slippery.
- The boss yells at the workers.

3.3 Traditional Ways of Controlling OSH Hazards

Many women, men, and children in small and medium enterprises and the informal economy experience occupational safety and health hazards because they lack the knowledge to prevent or control them. For example, a shoemaker may not have access to information about toxic and reproductive health hazards associated with the cleaners and glues used daily, about low-cost methods to reduce potential exposures, or about less toxic substitutes to prevent exposures. The same holds true for millions of small workshop owners and workers around the world.

Hierarchy of Controls

There are often several ways to control a hazard, but some are better than others. The three main control methods, in order of effectiveness, are:⁹

1. Remove the hazard.
2. Improve work policies and procedures.
3. Use protective clothing and equipment.

Removing a hazard is the best control measure because it takes it away from the workplace altogether or keeps it isolated (away from workers) so it cannot hurt anyone. This way, the

⁸ J.M. Batino: Snapshot of Working Conditions in the Urban Informal Sector, ILO Interdepartmental project on the Urban Informal Sector, Manila, ILO-SEAPAT, 1995.

⁹ This discussion of Controlling OSH Hazards is adapted from the Youth@Work: Talking Safety curriculum mentioned above.

workplace itself is safer, and all the responsibility for safety doesn't fall on individual workers.

Examples of removal include:

- Using safer chemicals, and getting rid of hazardous ones.
- Storing chemicals in locked cabinets away from work areas.
- Using machines instead of doing jobs by hand.
- Having protective guards around hot surfaces or "nip points."

If a hazard cannot be completely eliminated or kept away from workers, good work policies can reduce exposure to the hazards. Examples of good work policies are:

- Safety training on how to work around hazards.
- Regular breaks to avoid fatigue.
- Assigning enough people to do the job safely (lifting, etc.).

Use of personal protective equipment (often called "PPE") is the least effective way to control hazards, but it may be the only solution available. Examples are:

- Gloves, steel-toed shoes, hard hats.
- Respirators, safety glasses, hearing protectors.

One reason why PPE is considered the solution of last resort is that it does not get rid of or minimize the hazard itself. Workers may not want to wear it because it can be uncomfortable or hot and may make it hard to communicate or do work. It has to fit properly, which can be a problem for children as most PPE is made for adults, and must be used consistently and at the right time to work properly. It has to be matched to the particular hazard, such as the appropriate respirator cartridge or glove for the chemical being used. Using only PPE to control hazards puts the burden of protection entirely on the worker and is not usually effective in the long-run. In practice, combinations of control methods are usually needed to address health and safety concerns in the workplace.

4. The Risk Assessment Steps

The following subsections go in more detail on the five steps presented in Section 2. These are simplified guidelines and users who are planning to conduct risk assessments where young people work are encouraged to consult with occupational safety and health experts, and individuals familiar with the types of work processes being assessed.

Step 1. Identifying hazards and those at risk

The identification of the hazards in all aspects of work should be approached by:

- Being familiar with national laws related to prohibited work activities related to workers less than 18 years.
- Walking around the workplace and looking at what could cause harm.
- Consulting workers and/or their representatives about any problems they have encountered. Often the quickest and surest way to identify the details of what really happens is to ask the workers involved in the activity being assessed. They will know what process steps they follow, whether there are any short cuts, or ways of getting over a difficult task, and what precautionary actions they take.

- Examining systematically all aspects of the work, that is:
 - Looking at what actually happens in the workplace or during the work activity (actual practice may differ from the works manual).
 - Thinking about non-routine and intermittent operations (e.g. maintenance operations, changes in production cycles).
 - Taking account of unplanned but foreseeable events such as interruptions to the work activity.
- Considering long-term hazards to health, such as high levels of noise or exposure to harmful substances, as well as more complex or less obvious risks such as psychosocial or work organisational risk factors.
- Looking at company accident and ill-health records.
- Seeking information from other sources such as:
 - Manufacturers' and suppliers' instruction manuals or data sheets.
 - Occupational safety and health websites.
 - National bodies, trade associations or trade unions.
 - Legal regulations and technical standards.

In order to identify all those who might be exposed to the hazards, it is important for each hazard to be clear about who could be harmed; it will help in identifying the best way of managing the risk. Account should be taken of workers interacting with the hazards whether directly or indirectly, e.g. a worker painting a surface is directly exposed to solvents, while others workers in the vicinity, engaged in other activities, are inadvertently and indirectly exposed. This doesn't mean listing everyone by name, but identifying groups of people such as 'people working in the storeroom' or 'passers-by'. Cleaners, contractors and members of the public may also be at risk. Particular attention should be paid to:

- Gender
- Groups of young workers who may be at increased risk or have particular requirements:
 - Workers with disabilities.
 - Migrant workers.
 - Pregnant youth and nursing mothers.
 - Untrained or inexperienced staff.
 - Temporary and part-time workers

It is important to identify how these people might be harmed, i.e. what type of injury or ill health may occur.

Step 2. Evaluating risks and prioritising risks

The next step is to evaluate the risk arising from each hazard. This can be done by considering:

- How likely it is that a hazard will cause harm (e.g. whether it is improbable, possible but not very likely, probable, or inevitable over time).
- How serious that harm is likely to be (e.g. resulting in minor damage, a non-injury incident, a minor injury (bruise, laceration), a serious injury (fracture, amputation, chronic ill-health), a fatality, or a multiple-fatality).
- How often (and how many) workers are exposed.

A straightforward process based on judgement and requiring no specialist skills or complicated techniques could be sufficient for many workplace hazards or activities. These include activities with hazards of low concern, or workplaces where risks are well known or readily identified and where a means of control is readily available.

In some other cases it may not be possible to identify the hazards and evaluate risks without professional knowledge, support and advice. This may arise in respect of the more complex processes and technologies in the workplace, or hazards, such as those related to health, which may not be readily or easily identifiable, and may require analysis and measurements.

Step 3. Deciding on preventive action

Having evaluated the risks, the next step is to put in place preventive and protective measures. As discussed at the end of Section 3, among the things to be considered at this stage are:

1. Whether risks are preventable or avoidable. Is it possible to get rid of the risk? This can be done, for instance, by:
 - a. Considering whether the task or job is necessary.
 - b. Removing the hazard.
 - c. Using different substances or work processes.
2. If risks are not avoidable or preventable, how risks could be reduced to a level at which the health and safety of those exposed is not compromised. When determining a strategy to reduce and control risks, employers should be made aware of the following additional general principles of prevention:
 - a. Combating the risk at source.
 - b. Adapting the work to the individual, especially as regards the design of work places, the choice of work equipment and the choice of working and production methods, with a view, in particular, to alleviating monotonous work and work at a predetermined work-rate and to reducing their effect on health.
 - c. Adapting to technical progress.
 - d. Substituting the dangerous by the non-dangerous or the less dangerous (replacing the machine or material or other feature that introduces the hazard by an alternative).
 - e. Developing a coherent overall prevention policy which covers technology, organisation of work, working conditions, social relationships and the influence of factors related to the working environment.
 - f. Giving collective protective measures priority over individual protective measures (e.g. controlling exposure to fumes through local exhaust ventilation rather than personal respirators).
 - g. Giving appropriate instruction to workers.

For guidance on the control of risk through these measures employers should be referred to specifications, in national legislation, national standards, published guidance and other such criteria, published by national authorities.

A further important general principle of which employers need to be aware is that they should not transfer risks. That is to say that in providing a solution to one problem, another problem should not be created. For instance, it would be of doubtful benefit to provide double-glazing to office windows in order to reduce noise from outside, unless provisions were made for adequate ventilation.

Step 4. Taking action

After the most appropriate preventive and protective measures have been identified, the next step is to put them in place effectively. Effective implementation involves the development of a plan specifying:

- The measures to be implemented.
- The means allocated (time, expenses etc).
- Who does what and when.
- When actions are to be completed.
- A date for reviewing the control measures.

It is important to involve workers and their representatives in the process to:

- Inform them about the measures implemented, about how they will be implemented, and who will be the person in charge of implementing them.
- Train or instruct them about the measures or procedures that will be implemented.

Step 5. Monitoring and reviewing

Arrangements for monitoring and reviewing the protective and preventive measures should be introduced following the risk assessment to ensure that the effectiveness of these measures is maintained, and the risks controlled.

The information generated by monitoring activities should be used to inform the review and revision of the risk assessment. Risk assessment should not be a once-and-for-all activity. The assessment needs to be reviewed and revised, as necessary, for a number of reasons, including:

- The degree of change likely in the work activity.
- Changes which might alter the perception of risk in the workplace, such as a new process, new equipment or materials, change of work organisation, and new work situations including new workshops or other premises.
- Once the new measures have been introduced following the assessment, the new working conditions should be assessed in order to review the consequences of the change. It is essential that the risk is not transferred, that is to say that in providing a solution to one problem, another problem should not be created.
- The assessment no longer being applicable because the data or information on which it is based is no longer valid.
- The preventive and protective measures currently in place being insufficient or no longer adequate, e.g. because new information is available regarding particular control measures.
- As a result of the findings of an accident or “near miss” (a near miss is an unplanned event that did not result in injury, illness, or damage - but had the potential to do so)

5. Documenting the risk assessment

A record of the results of risk assessments at work should be kept. Such a record can be used as a basis for:

- Information to be passed to the persons concerned.
- Monitoring to assess whether necessary measures have been introduced.
- Evidence to be produced for supervisory authorities.
- Any revision if circumstances changes.

A record of at least the following details is recommended:

- Name and function of the person(s) carrying out the examination.
- The hazards and risks that were identified.
- The groups of workers who face particular risks.
- The necessary protection measures.
- Details of the introduction of the measures, such as the name of the person responsible and date.
- Details of subsequent monitoring and reviewing arrangements, including dates and the people involved.
- Details of the involvement of workers and their representatives in the risk assessment process.

The records of assessments should be drawn up with the consultation and participation of workers and/or their representatives and made available to them for information. The workers concerned should, in any case, be informed of the outcome of each assessment that relates to their work station, and the action to be taken as a result of the assessment.

6. Employers' roles and responsibilities

Employers should carefully prepare what they are going to do in order to meet their responsibilities to make a risk assessment, and put in place the measures necessary for the safety and health of workers. It is recommended that they do this through an action plan for the elimination or control of risks. The action plan should include:

- Commissioning, organising and coordinating the assessment.
- Appointing competent people to make the assessments. The person carrying out the risk assessment can be:
 - The employers themselves.
 - Employees designated by the employers.
 - External assessors and service providers if there is a lack of competent personnel in the workplace.
- People can demonstrate their competence by showing that they have the following abilities:

- An understanding of the general approach to risk assessment.
 - The capacity to apply this understanding to the workplace.
 - The ability to identify situations where they would be unable to adequately assess the risk without help, and be able to advise on the need for further assistance.
- Consulting workers' representatives on arrangements for the appointment of those who will make the assessments.
 - Providing the necessary information, training, resources and support to assessors who are the employer's own employees.
 - Ensuring adequate coordination between assessors (where relevant).
 - Involving management and encouraging the participation of the workforce.
 - Determining the arrangements to be made for reviewing and revising the risk assessment.
 - Ensuring that the preventive and protective measures take account of the results of the assessment.
 - Ensuring that the risk assessment is documented.
 - Monitoring the protective and preventive measures to ensure that their effectiveness is maintained.
 - Informing workers and/or their representatives of the results of the assessment and of the measures introduced (making the records available to them).

7. Young workers' roles and responsibilities

It is important that young workers participate in the risk assessment. They know the problems and the details of what really happens when they perform their tasks or activities, so they should be involved in the assessment. Their practical knowledge or competence is also often needed to develop workable preventive measures.

Workers' participation is not only a right, it is fundamental to make the employers' occupational health and safety management effective and efficient.

Workers and/or their representatives have the right/duty to:

- Be consulted on arrangements for the organisation of the risk assessment and for the appointment of those undertaking the task.
- Participate in the risk assessment.
- Alert their supervisors or employers regarding perceived risks.
- Report any changes in the workplace.

- Be informed of the risks to their safety and health and of the measures necessary to eliminate or reduce these risks.
- Be involved in the process of deciding on the preventive and protective measures to be put in place.
- Ask the employer to put in place appropriate measures and to submit proposals to minimise hazards or to remove the danger at source.
- Cooperate to help the employer to ensure that the working environment is safe.
- Be trained/receive instructions on the measures to be put in place.
- Take care as far as possible of their safety and health and that of others persons affected by their acts in accordance with the training and the instructions given by the employer.
- In addition, it is important workers representatives are trained so that they understand risk assessment and their role in it.

8. Advice for whoever carries out the risk assessment

Persons carrying out risk assessments at work should have knowledge of and/or information on:

- Hazards and risks which are already known to exist, and the way that they arise.
- The materials, equipment and technology used at work.
- Working procedures and organisation and interaction of workers with the materials used.
- The type, likelihood, frequency, and duration of exposure to the hazards. In some cases this may mean the application of modern, validated techniques of measurement.
- The relation between exposure to a hazard and its effect.
- The legal standards and requirements relevant to the risks present in the workplace.
- What is regarded as good practice in areas where there are no specific legal standards.

Employers should make sure that whoever is making the risk assessment, whether an employee or an external consultant, speaks to the employees, or other people such as contractors who actually carry out the work.

Where employees of different employers work in the same workplace, assessors may need to share information about risks and the health and safety measures in place to address those risks.

Facilitating this is a matter for the employer to arrange.